

Claims

1. A process for the preparation of liquid products, having an epoxide content greater than 0.1 mol/kg, resulting from the reaction of cycloaliphatic epoxides with multifunctional hydroxy compounds which comprises reacting a polyfunctional cycloaliphatic epoxy resin with a mono- or a multifunctional hydroxy compound in the presence of a heterogeneous surface-active catalyst selected from the group consisting of activated aluminum hydroxide, hydrated aluminum oxide, amorphous silica, activated carbon and cationic ion exchange resins and isolating the reaction product.
2. A process according to claim 1, which comprises reacting a polyfunctional cycloaliphatic epoxy resin selected from the group consisting of 3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexane carboxylate and bis (3,4-epoxycyclohexylmethyl) adipate carboxylate.
3. A process according to claim 1, which comprises reacting a multifunctional hydroxy compound selected from the group consisting of pentaerythritol ethoxylate, polyethylene glycol, polytetrahydrofuran, polycaprolactone diol or triol, tripropylene glycol, glycerol propoxylate and dendritic polyols.
4. A process according to claim 1, which comprises reacting the epoxy resin with a multifunctional hydroxy compound in the presence of activated, porous, solid aluminum hydroxide having the general formula $\text{Al}_2\text{O}_{(3-x)}(\text{OH})_{2x}$ where x ranges from about 0 to 0.8.
5. A process according to claim 1, which comprises reacting the epoxy resin with a multifunctional hydroxy compound in the presence of hydrated aluminum oxide selected from the group consisting of crystalline aluminum hydroxide and gelatinous crystalline aluminum hydroxide.
6. A process according to claim 1, which comprises reacting the epoxy resin with a multifunctional hydroxy compound in the presence of amorphous silica selected from the group consisting of silica sols or colloidal silica, silica gels, precipitated silica and pyrogenic or fumed silica.
7. A process according to claim 1, which comprises reacting the epoxy resin with a multifunctional hydroxy compound in the presence of liquid-phase activated carbon in powder, granular or shaped form.

8. A process according to claim 1, which comprises reacting the epoxy resin with a mono- or a multifunctional hydroxy compound in the presence of macroporous or microporous crosslinked sulphonated polystyrene or crosslinked polyacrylic cationic ion exchange resins.
9. A process according to claim 1 which comprises reacting at elevated temperature the polyfunctional cycloaliphatic epoxy resin with the mono- or the multifunctional hydroxy compound in the presence of a heterogeneous surface-active catalyst.
10. A process according to claim 1 which comprises cooling the reaction mixture, removing the catalyst, and isolating the reaction product.
11. The product as obtained by the process according to claim 1.
12. Use of the product as obtained by the process according to claim 1 for preparing a curable composition.
13. A curable composition which comprises
 - a) the product as obtained by the process according to claim 1; and
 - b) a curing agent.
14. A process for preparing a curable composition, which comprises
 - a') treating the product as obtained by the process according to claim 1 with
 - b') a heat curable curing agent or an ultraviolet (UV) curable curing agent.
15. Use of the curable composition according to claim 13 as adhesives, primers for adhesives, laminating and casting resins, moulding compositions, putties and sealing compounds, potting and insulation compounds, as coatings or stereolithographic type applications.